UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
2003/00018

January 24, 2003

Mr. Robert Willis
Portland District, Corps of Engineers
P.O. Box 2946
Portland, OR 97208-2946

Re: Reinitiation of Endangered Species Act Section 7 Consultation and Magnuson-Stevens Act Essential Fish Habitat Consultation for the Celilo Treaty Fishing Access Site Groin Extension in the Columbia River, Wasco County, Oregon.

Dear Mr. Willis:

Enclosed is the biological opinion (Opinion) prepared by the National Marine Fisheries Service (NOAA Fisheries) pursuant to section 7 of the Endangered Species Act (ESA) on the effects of the proposed extension of a rock groin at the Celilo Treaty Fishing Site in the Columbia River at Celilo, Wasco County, Oegon. In this Opinion, NOAA Fisheries concludes that the proposed action is not likely to jeopardize the continued existence of ESA-listed Snake River basin steelhead (*Oncorhynchus mykiss*), Snake River spring/summer chinook salmon (*O. tshawytscha*), Snake River sockeye salmon (*O. nerka*), Snake River fall chinook salmon (*O. tshawytscha*), Upper Columbia River spring chinook salmon (*O. tshawytscha*), Middle Columbia River steelhead and Upper Columbia River steelhead (*O. mykiss*), or destroy or adversely modify designated critical habitats for Snake River species. This Opinion does not address the effects of Tribal fishing. Those effects were considered in two biological opinions issued by NOAA Fisheries in 2001 and 2002. As required by section 7 of the ESA, NOAA Fisheries has included reasonable and prudent measures with nondiscretionary terms and conditions that NOAA Fisheries believes are necessary to minimize the potential for incidental take associated with these actions.

This Opinion also serves as consultation on essential fish habitat pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act and its implementing regulations (50 CFR part 600).

If you have any questions regarding this consultation, please contact Ben Meyer at 503.230.5425 of my staff in the Oregon Habitat Branch.

Sincerely,

for Michael R Course

D. Robert Lohn
Regional Administrator

Endangered Species Act - Section 7 Consultation
&
Magnuson-Stevens Act
Essential Fish Habitat Consultation

BIOLOGICAL OPINION

Celilo Treaty Fishing Access Site Groin Extension
Columbia River
Wasco County, Oregon

Agency:	Army Corps of Engineers
Consultation Conducted By:	National Marine Fisheries Service, Northwest Region
Date Issued:	January 24, 2003

Issued by: F.r Michael R Crouse
_____
D. Robert Lohn
Regional Administrator

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1. ENDANGERED SPECIES ACT

1.1 Background

On June 17, 1998, the National Marine Fisheries Service (NOAA Fisheries) received a request from the U.S. Army Corps of Engineers (COE) for Endangered Species Act (ESA) section 7 informal consultation for the construction of six in-lieu treaty fishing access sites along the Columbia River in Benton and Klickitat Counties in Washington, and along the John Day River in Sherman County, Oregon. NOAA Fisheries concurred with that determination and completed informal consultation with a concurrence letter dated July 13, 1998. The COE completed construction of the project at the six sites.

Subsequent to construction, the wave attenuator on the downstream groin at the Celilo site was destroyed by high waves. Further evaluation of the dynamics of the site indicated that replacement of the attenuator would not be feasible and that extension of the groin would be the only option to protect the launch facility from wave action.

The COE has determined that Snake River basin steelhead (*Oncorhynchus mykiss*)[1], Snake River spring/summer chinook salmon (*O. tshawytscha*), Snake River sockeye salmon (*O. nerka*), Snake River Fall chinook salmon (*O. tshawytscha*), Upper Columbia River spring chinook salmon (*O. tshawytscha*), Middle Columbia River steelhead and Upper Columbia River steelhead (*O. mykiss*), occur within the project area and may be adversely affected by the project.

Consequently, the COE requested formal consultation with NOAA Fisheries on January 14, 2003, and submitted a biological assessment (BA) for the project.

This Opinion is based on the information presented in the COE's EIS and Public Notice for the project, and the BA provided in the January 14, 2003, request for consultation. The objective of this Opinion is to determine whether the actions to extend the groin at the Celilo access site are likely to jeopardize the continued existence of the Snake River basin steelhead, Snake River Spring/Summer chinook salmon, Snake River sockeye salmon, Snake River Fall chinook salmon, Upper Columbia River Spring chinook salmon, Middle Columbia River steelhead and Upper Columbia River steelhead, or destroy or adversely modify critical habitat. This consultation is undertaken under section 7(a)(2) of the ESA, and its implementing regulations, 50 CFR Part 402.

[1] References on species biology and listing status, critical habitat designations and protective regulations may be found in Table 1.

Table 1. References for Additional Background on Listing Status, Biological Information, and Critical Habitat Elements for the Listed and Proposed Species Addressed in this Opinion.

Species	Listing Status	Critical Habitat	Protective Regulations	Biological Information
Middle Columbia River steelhead	March 25, 1999; 64 FR 14517, Threatened	**	July 10, 2000; 65 FR 42422	Busby *et al.* 1995; 1996
Upper Columbia River steelhead	August 18, 1997; 62 FR 43937, Endangered	**	July 10, 2000; 65 FR 42422	Busby *et al.* 1995; 1996
Snake River Basin steelhead	August 18, 1997; 62 FR 43937, Threatened	**	July 10, 2000; 65 FR 42422	Busby *et al.* 1995; 1996
Snake River sockeye salmon	November 20, 1991; 56 FR 58619, Endangered	December 28, 1993; 58 FR 68543	November 20, 1991; 56 FR 58619	Waples *et al.* 1991a; Burgner 1991
Upper Columbia River spring-run chinook salmon	March 24, 1999; 64 FR 14308, Endangered	**	July 10, 2000; 65 FR 42422	Myers *et al.*1998; Healey 1991
Snake River spring/summer-run chinook salmon	April 22, 1992; 57 FR 14653, Threatened	October 25, 1999; 64 FR 57399	April 22, 1992; 57 FR 14653	Matthews and Waples 1991; Healey 1991
Snake River fall chinook salmon	April 22, 1992; 57 FR 14653, Threatened	December 28, 1993; 58 FR 68543	April 22, 1992; 57 FR 14653	Waples *et al.* 1991b; Healey 1991

1.2 Proposed Action

The proposed action is an 80-foot extension of an existing 150-foot rubble mound rock groin in the Columbia River at Celilo, in Wasco County, Oregon. To minimize potential impacts to salmonids, the COE proposes the following conservation measures:

- Complete construction during the preferred in-water work window of November 15 to March 15.
- Fueling and overnight storage of the construction equipment will not occur in the construction area.
- Construction equipment will not operate within the Columbia River.
- The contractor will submit for approval an environmental protection plan to the COE prior to construction.

- Plant survival monitoring will be conducted by the COE in the spring of 2003, and coordinated with the Bureau of Indian Affairs (BIA) after the land transfer in May of 2003.

To compensate for lost benthic habitat from the groin extension, the COE proposes to place four conifer root wads (minimum 72 inch ball) along the upstream edge of the groin extension to provide habitat. In addition, the COE proposes to plant 90 six-foot willow cuttings within the groin extension and mix 40 one-foot willow cuttings into each cubic yard of quarry waste used to fill gaps in the extension. The COE also proposes to provide for the potential loss of some of the six-foot willow cuttings in the groin extension by planting a total of 180 six-foot willow cuttings along the shoreline upstream and downstream of the groin extension.

1.3 Biological Information and Critical Habitat

An action area is defined by NOAA Fisheries regulations (50 CFR Part 402) as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." Direct affects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect effects may occur throughout the river where actions described in this Opinion lead to additional activities or affect ecological functions contributing to habitat degradation. For the purposes of this Opinion, the action area is the Columbia River at the site and the adjacent riparian area from about 1000 feet upstream and downstream from the project.

The Columbia River in this area serves as a migration area for all listed species under consideration in this Opinion. Essential features of the area for the species are: (1) Substrate; (2) water quality; (3) water quantity; (4) water temperature; (5) water velocity; (6) cover/shelter; (7) food (juvenile only); (8) riparian vegetation; (9) space; and (10) safe passage conditions. The proposed action may affect the essential habitat features of water quality, substrate, riparian vegetation, food and safe passage conditions.

1.4 Evaluating Proposed Actions

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR Part 402 (the consultation regulations). NOAA Fisheries must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the definition of the biological requirements and current status of the listed species, and evaluation of the relevance of the environmental baseline to the species' current status.

Subsequently, NOAA Fisheries evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NOAA Fisheries must consider the estimated level of mortality attributable to: (1) Collective effects of the proposed or continuing action; (2) the

environmental baseline; and (3) any cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmonid's life stages that occur beyond the action area. If NOAA Fisheries finds that the action is likely to jeopardize the listed species, NOAA Fisheries must identify reasonable and prudent alternatives for the action.

Furthermore, NOAA Fisheries evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. NOAA Fisheries must determine if habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. NOAA Fisheries identifies those effects of the action that impair the function of any essential element of critical habitat. NOAA Fisheries then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NOAA Fisheries concludes that the action will destroy or adversely modify critical habitat, it must identify any reasonable and prudent alternatives available.

For the proposed action, NOAA Fisheries' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NOAA Fisheries' critical habitat analysis considers the extent to which the proposed action impairs the function of essential biological elements necessary for juvenile and adult migration, and juvenile rearing of the listed species.

1.4.1 Biological Requirements

The first step in the methods NOAA Fisheries uses for applying the ESA section 7(a)(2) to listed chinook and steelhead is to define the species' biological requirements that are most relevant to each consultation. NOAA Fisheries also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess the current status of the listed species, NOAA Fisheries starts with the determinations made in its decision to list the species for ESA protection and also considers new available data that is relevant to the determinations.

The relevant biological requirements are those necessary for ESA-listed salmon to survive and recover to naturally-reproducing population levels at which time protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environmental.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful migration and rearing in the project area. The current status of the listed species, based upon their risk of extinction, has not significantly improved since they were listed.

1.4.2 Environmental Baseline

The most recent evaluation of the environmental baseline for the Columbia River is part of the NOAA Fisheries's Opinion for the Federal Columbia River Power System (FCRPS) issued in

December 2000. This Opinion assessed the entire Columbia River system below Chief Joseph Dam and downstream to the farthest point (the Columbia River estuary and nearshore ocean environment) at which listed salmonids are influenced. A detailed evaluation of the environmental baseline of the Columbia River basin can be found in the FCRPS Opinion (NMFS 2000).

The quality and quantity of freshwater habitats in much of the Columbia River basin have declined dramatically in the last 150 years. Forestry, farming, grazing, road construction, hydrosystem development, mining, and urbanization have radically changed the historical habitat conditions of the basin. Depending on the species, they spend from a few days to one or two years in the Columbia River and its estuary before migrating out to the ocean and another one to four years in the ocean before returning as adults to spawn in their natal streams.

Water quality in streams throughout the Columbia River basin has been degraded by human activities such as dams and diversion structures, water withdrawals, farming and grazing, road construction, timber harvest activities, mining activities, and urbanization. Tributary water quality problems contribute to poor water quality where sediment and contaminants from the tributaries settle in mainstem reaches and the estuary. Temperature alterations also affect salmonid metabolism, growth rate, and disease resistance, as well as the timing of adult migrations, fry emergence, and smoltification. Many factors can cause high stream temperatures, but they are primarily related to land-use practices rather than point-source discharges. Loss of wetlands and increases in groundwater withdrawals have contributed to lower base-stream flows, which in turn contribute to temperature increases. Channel widening and land uses that create shallower streams also cause temperature increases.

Pollutants also degrade water quality. Salmon require clean gravel for successful spawning, egg incubation, and emergence of fry. Fine sediments clog the spaces between gravel and restrict the flow of oxygen-rich water to the incubating eggs. Excess nutrients, low levels of dissolved oxygen, heavy metals, and changes in pH also directly affect the water quality for salmon and steelhead.

Water quantity problems are also a significant cause of habitat degradation and reduced fish production. Withdrawing water for irrigation, urban, and other uses can increase temperatures, smolt travel time, and sedimentation. Return water from irrigated fields can introduce nutrients and pesticides into streams and rivers. On a larger landscape scale, human activities have affected the timing and amount of peak water runoff from rain and snowmelt. Many riparian areas, flood plains, and wetlands that once stored water during periods of high runoff have been developed. Urbanization paves over or compacts soil and increases the amount and pattern of runoff reaching rivers and streams.

Based on the best available information regarding the current status of the listed species range-wide, the population status, trends, genetics, and the poor environmental baseline conditions within the action areas, NOAA Fisheries concludes that the biological requirements of these species are not currently being met. Degraded habitat resulting from agricultural practices,

forestry practices, road building, and residential construction, indicate many aquatic habitat indicators are not properly functioning within the Columbia River Basin. Actions that do not maintain or restore properly functioning aquatic habitat conditions would be likely to jeopardize the continued existence of these species.

1.5 Analysis of Effects

1.5.1 Effects of Proposed Action

Predation.

The mainstem Columbia River serves as an important migration route for numerous species of anadromous fish, whether they key on shallow, nearshore habitats like fall chinook, or mid-river habitats, like sockeye salmon and steelhead juveniles (Dawley *et al.* 1986). Juvenile salmonids are subject to predation by predatory fish as they migrate downstream. Juvenile salmonid species such as spring chinook, sockeye, and coho salmon and up-river steelhead usually move down river relatively quickly and in the main channel. This would aid in predator avoidance (Gray and Rondorf 1986). Fall and summer chinook salmon are found in nearshore, littoral habitats and are particularly vulnerable to predation (Gray and Rondorf 1986). Juvenile salmonids (chinook and coho salmon) also utilize backwater areas during their out migration (Parente and Smith 1981). In addition, the presence of predators may force smaller prey fish species into less desirable habitats, disrupting foraging behavior, resulting in less growth (Dunsmoor *et al.* 1991).

When a salmon stock suffers from low abundance, predation can contribute significantly to its extinction (Larkin 1979). Further, providing temporary respite from predation may contribute to increasing Pacific salmon (Larkin 1979). A substantial reduction in predators will generally result in an increase in prey (in this case, salmonids) abundance (Campbell 1979). Gray and Rondorf (1986), in evaluating predation in the Columbia River basin, state that "The most effective management program may be to reduce the susceptibility of juvenile salmonids to predation by providing maximum protection during their downstream migration." Campbell (1979), discussing management of large rivers and predator-prey relations, advocates that a "do nothing" approach (as opposed to predator manipulations) coupled with a strong habitat protectionist policy, should receive serious consideration.

Predator species such as northern pikeminnow (*Ptychocheilus oregonensis*), and introduced predators such as largemouth bass, smallmouth bass, black crappie, white crappie and, potentially, walleye (*Stizostedion vitreum*) (Ward *et al.* 1994, Poe *et al.* 1991, Beamesderfer and Rieman 1991, Rieman and Beamesderfer 1991, Petersen *et al.* 1990, Pflug and Pauley 1984, and Collis *et al.* 1995) may utilize habitat created by in-water structures.

Bevelhimer (1996), in studies on smallmouth bass, indicates that ambush cover and low light intensities create a predation advantage for predators and can also increase foraging efficiency. Coble (1975), Miller (1975) and Edwards *et al.* (1983) indicate that smallmouth bass prefer streams with moderate currents, gravel or rubble substrate and rocks or logs creating slack water,

whereas largemouth bass prefer streams with sluggish current, silt and mud substrate, and aquatic vegetation.

Black crappie and white crappie are known to prey on juvenile salmonids (Ward *et al.* 1991). Ward *et al.* (1991), in their studies of crappies within the Willamette River, found that the highest density of crappies at their sampling sites occurred at a wharf supported by closely spaced pilings. They further indicated that suitable habitat for crappies includes pilings and riprap areas. Walters *et al.* (1991) also found that crappie were attracted to in-water structures and recommended placement of structures as attractants in lake environs.

Ward (1992) found that stomachs of northern pikeminnow in developed areas of Portland Harbor contained 30% more salmonids than those in undeveloped areas, although undeveloped areas contained more northern pikeminnow. Takata and Ward (2000) in studies of the effects of developments on predators above Bonneville Dam found that small structures did not appear to have increased predation on juvenile salmonids.

There are four major predatory strategies utilized by piscivorous fish: (1) Run down prey; (2) ambush prey; (3) habituate prey to a non-aggressive illusion; or (4) stalk prey (Hobson 1979). Ambush predation is probably the most common strategy; predators lie-in-wait, then dart out at the prey in an explosive rush (Gerking 1994). Predators may use sheltered areas that provide slack water to ambush prey fish in faster currents (Bell 1991).

The existing groin currently provides the opportunity for predatory fish usage. The extension of the groin should not increase that potential. The addition of root wads and willow cuttings into the groin should provide some refugia for juvenile salmonids and may minimize predation.

Riparian area alteration.

Riparian habitats are one of the most ecologically productive and diverse terrestrial environments (Kondolf *et al.* 1996, Naiman *et al.* 1993). Vegetation in riparian areas influences channel processes through stabilizing bank lines, and providing large wood (LW), terrestrial food sources rather than autochthonous food production, and regulating light and temperature regimes (Kondolf *et al.* 1996, Naiman *et al.* 1993). Vegetation in riparian areas provides soil stability, shade, LW supply, and food for fish and their prey. In addition, riparian vegetation and LW can provide low velocity shelter habitat for fish during periods of flooding, while instream LW provides similar habitat at all flow levels, as well as shelter from predators, habitat for prey species, and the sediment storage and channel stability attributes described above (Spence *et al*. 1996).

The proposed sites are located along the Columbia River in the rain shadow created by the Cascade Range. Consequently, the riparian zone in these areas is very narrow and dominated by shrubs and small trees adapted to minimal rainfall. The addition of willow cuttings within the shoreline of the project area will increase habitat and refugia for out-migrating juvenile salmonids.

Water Quality.
Water quality may be affected by runoff from construction activities. Spilt fuel, lubricants, *etc.*, could injure or kill aquatic organisms. Petroleum-based contaminants (such as fuel, oil, and some hydraulic fluids) contain polycyclic aromatic hydrocarbons (PAHs) which can cause acute toxicity to salmonids at high levels of exposure and can also cause chronic lethal as well as acute and chronic sublethal effects to aquatic organisms (Neff 1985). The proposed measures to restrict fueling to areas away from the construction site should minimize the potential for contamination from fuel spills.

1.5.2 Effects on Critical Habitat

NOAA Fisheries designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat for the SR fall-run chinook salmon, SR spring/summer chinook salmon, and SR sockeye salmon consists of all waterways below naturally-impassable barriers, including the project area. The adjacent riparian zone out 300 feet is also included in the designation. This zone is defined as the area that provides the following functions: Shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter. Effects on critical habitat from the proposed action are included in the effects description above.

1.5.3 Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation."

Non-federal activities within the action areas are expected to increase with an increase in human population in the Columbia River basin. Thus NOAA Fisheries assumes that future private and state actions will continue within the action areas, but at increasingly higher levels as population density increases. NOAA Fisheries assumes that future Federal projects in the Columbia River will be reviewed through separate section 7 consultation processes and therefore are not considered cumulative effects.

1.6 Conclusion

NOAA Fisheries has determined that, when the effects of the COE's proposed action (construction of the groin extension) is added to the environmental baselines and cumulative effects occurring in the action areas, it is not likely to jeopardize the continued existence of Snake River basin steelhead, Snake River spring/summer chinook salmon, Snake River sockeye salmon, Snake River fall chinook salmon, Upper Columbia River spring chinook salmon, Middle Columbia River steelhead and Upper Columbia River steelhead, or cause adverse modification or destruction of designated critical habitats.

This conclusion was based on the following considerations: (1) All in-water work and other construction activities within the ordinary high water will take place within the preferred in-water work window to protect fish and wildlife resources; (2) the groin extension and adjacent riparian areas will be planted with vegetation to provide habitat for juvenile salmonids; (3) placement of root wads will provide refugia from predators for juvenile salmonids; (4) there should be no net increase in predator fish usage of the site; and (5) water quality will not be unduly impacted by construction. Therefore, the proposed action is not expected to prevent or delay the achievement of properly functioning habitat conditions in the action area.

1.7 Reinitiation of Consultation

As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained or is authorized by law and if: (1) The amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this Opinion; or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of authorized incidental take is exceeded, any operations causing such take must cease pending reinitiation of consultation.

2. INCIDENTAL TAKE STATEMENT

Section 9 and rules promulgated under section 4(d) of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. "Harass" is defined as actions that create the likelihood of injuring listed species by annoying it to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. "Incidental take" is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

2.1 Amount and Extent of the Take

NOAA Fisheries anticipates that the actions covered by this Opinion is reasonably certain to result in incidental take of Snake River Basin steelhead, Snake River Spring/Summer chinook salmon, Snake River sockeye salmon, Snake River Fall chinook salmon, Upper Columbia River Spring chinook salmon, Middle Columbia River steelhead and Upper Columbia River steelhead because of minimal predator usage of the groin extension post-construction and the slight possibility of juvenile presence in the vicinity of the project site during in-water work. Take resulting from the effects of the action covered by this Opinion is largely unquantifiable in the short term and not expected to be measureable in the long term. The extent of take is limited to the action area.

2.2 Reasonable and Prudent Measures

The measures described below are non-discretionary. They must be implemented so that they become binding conditions in order for the exemption in section 7(a)(2) to apply. The COE has the continuing duty to regulate the activities covered in this incidental take statement. If the COE fails to adhere to the terms and conditions of the incidental take statement through enforceable terms added to the document authorizing this action, or fails to retain the oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

NOAA Fisheries believes that the following reasonable and prudent measures along with conservation measures described by the COE are necessary and appropriate to minimize the likelihood of take of listed fish resulting from implementation of this Opinion. These reasonable and prudent measures would also minimize adverse effects to designated critical habitat.

NOAA Fisheries believes that, in addition to the conditions proposed by the COE, the following reasonable and prudent measures are necessary and appropriate to minimize the likelihood of take of listed fish resulting from implementation of this Opinion. The reasonable and prudent measures would also minimize adverse effects to designated critical habitats.

1. Minimize the likelihood of incidental take from activities involving use of heavy equipment, site restoration, or that may otherwise involve in-water work or affect fish passage by applying methods to avoid or minimize disturbance to riparian and aquatic systems.

2. Ensure effectiveness of implementation of the reasonable and prudent measures through monitoring and evaluation both during and following construction.

2.3 Terms and Conditions

1. To implement reasonable and prudent measure #1 (heavy equipment, site restoration, in-water work), the COE shall ensure that:

a. The Contractor will develop and implement a site-specific spill prevention, containment, and control plan (SPCCP), and is responsible for containment and removal of any toxicants released. The Contractor will be monitored by the COE to ensure compliance with this SPCCP. The plan must contain the pertinent elements listed below, and meet requirements of all applicable laws and regulations.
    i. Practices to prevent erosion and sedimentation associated with access roads, stream crossings, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations and staging areas.
    ii. Practices to confine, remove and dispose of excess concrete, cement and other mortars or bonding agents, including measures for washout facilities.
    iii. A description of any hazardous products or materials that will be used for the project, including procedures for inventory, storage, handling, and monitoring.
    iv. A spill containment and control plan with notification procedures, specific clean up and disposal instructions for different products, quick response containment and clean up measures that will be available on the site, proposed methods for disposal of spilled materials, and employee training for spill containment.
b. All discharge water created by construction (*e.g.*, concrete washout, pumping for work area isolation, vehicle wash water) will be treated as follows:
    i. Facilities must be designed, built and maintained to collect and treat all construction discharge water using the best available technology applicable to site conditions. The treatment must remove debris, nutrients, sediment, petroleum hydrocarbons, metals and other pollutants likely to be present.
    ii. If construction discharge water is released using an outfall or diffuser port, velocities must not exceed four feet per second.
    iii. No construction discharge water may be released within 90 meters upstream of spawning areas or areas with marine submerged vegetation.
c. The following erosion and pollution control materials shall be onsite:
    i. A supply of erosion control materials (*e.g.*, silt fence and straw bales) is on hand to respond to sediment emergencies. Sterile straw or hay bales will be used when available to prevent introduction of weeds.
    ii. An oil-absorbing, floating boom is available on-site during all phases of construction. The boom must be of sufficient length to span the wetted channel.
    iii. All temporary erosion controls (*e.g.*, straw bales, silt fences) are in-place and appropriately installed downslope of project activities within the riparian area. Effective erosion control measures will be in-place at all times during the contract, and will remain and be maintained until such time that permanent erosion control measures are effective.
d. All exposed or disturbed areas will be stabilized to prevent erosion.

i. Areas of bare soil within 150 feet of waterways, wetlands or other sensitive areas will be stabilized by native seeding[2], mulching, and placement of erosion control blankets and mats, if applicable, but within 14 days of exposure.
ii. All other areas will be stabilized quickly as reasonable, but within 14 days of exposure.
iii. Seeding outside of the growing season will not be considered adequate nor permanent stabilization.

e. All erosion control devices will be inspected during construction to ensure that they are working adequately.
i. Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, monthly on inactive sites.
ii. If inspection shows that the erosion controls are ineffective, work crews will be mobilized immediately, during working and off-hours, to make repairs, install replacements, or install additional controls as necessary.
iii. Erosion control measures will be judged ineffective when turbidity plumes are evident in waters occupied by listed salmonids during any part of the year.

f. Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground. Catch basins will be maintained so that sediment does not accumulate within traps or sumps.

g. Sediment-laden water created by construction activity will be filtered before it enters a stream or other water body. Silt fences or other detention methods will be installed as close as reasonable to outlets to reduce the amount of sediment entering aquatic systems.

h. Any hazardous materials spill will be reported to NOAA Fisheries.
i. In the event of a hazardous materials or petrochemical spill, immediate action shall be taken to recovery toxic materials from further impacting aquatic or riparian resources.
ii. In the event of a hazardous materials or petrochemical spill, a detailed description of the quantity, type, source, reason for the spill, and actions taken to recover materials will be documented. The documentation should include photographs.

i. Refueling and hazardous materials
i. All staging and refueling shall occur at least 150 feet from the ordinary high-water mark, except as stated below.
ii. No auxiliary fuel tanks will be stored within 150 feet of the ordinary high-water mark.

[2]By Executive Order 13112 (February 3, 1999), federal agencies are not authorized to permit, fund or carry out actions that are likely to cause, or promote, the introduction or spread of invasive species. Therefore, only native vegetation that is indigenous to the project vicinity, or the region of the state where the project is located, shall be used.

j. Boundaries of the clearing limits associated with site access and construction will be flagged to prevent ground disturbance of riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.

k. Boulders, rock, woody materials and other natural construction materials used for the project must be obtained from outside of the riparian area.

l. Temporary access roads (if needed) will be designed as follows:
   i. Temporary access roads will not cross streams.
   ii. Alteration of existing native vegetation will be minimized in the construction, use, and maintenance of temporary access roads.
   iii. Existing roadways or travel paths will be used whenever reasonable.
   iv. Vehicles and machinery must cross riparian areas at right angles to the main channel wherever reasonable.
   v. Temporary roads within 150 feet of streams will avoid, minimize and mitigate soil disturbance and compaction by clearing vegetation to ground level and placing clean gravel over geotextile fabric.
   vi. All cleared areas will be revegetated once construction is completed as described below.

m. All project operations, except efforts to minimize storm or high flow erosion, will cease under high flow conditions that may result in inundation of the immediate work area.

n. All damaged areas will be restored to pre-work conditions. Damaged streambanks must be restored to a natural slope, pattern and profile suitable for establishment of permanent woody vegetation.

o. All exposed soil surfaces, including construction access roads and associated staging areas, will be stabilized at finished grade with mulch, native herbaceous seeding, and native woody vegetation. Areas requiring revegetation must be replanted between October 15 and April 15 with a diverse assemblage of species that are native to the project area or region, including grasses, forbs, shrubs and trees.

p. No herbicide application will occur within 300 feet of any stream channel as part of this action. Mechanical removal of undesired vegetation and root nodes is permitted.

q. No surface application of fertilizer will be used within 50 feet of any stream channel as part of this permitted action.

r. Fencing will be installed as necessary to prevent access to revegetated sites by livestock or unauthorized persons.

s. Plantings will achieve 100% survival after 1 year, and 80% survival or 80% ground cover after 5 years (including both plantings and natural recruitment). If the success standard has not been achieved after 5 years, the COE will submit an alternative plan to NOAA Fisheries. The alternative plan will address temporal loss of function for the 5 years.

2. To implement reasonable and prudent measure #2 (monitoring), the COE shall ensure that:

a. Within 90 days of completing the construction projects and within 90 days of completing the mitigation projects, the COE will submit a monitoring report to NOAA Fisheries describing the success meeting their permit conditions. This report will consist of the following information:

i. Project identification

(1) Project name and project location, including any compensatory mitigation site(s), by 5th field HUC and by latitude and longitude as determined from the appropriate USGS 7-minute quadrangle map.

(2) Starting and ending dates of work completed for this project;

(3) Monitoring reports shall be submitted to:

National Marine Fisheries Service
Oregon Habitat Branch
Attn: 2003/00018
525 NE Oregon Street, Suite 500
Portland, OR 97232-2778

ii. A report analyzing the impacts of the stormwater generated by the new impervious surface and how it impacts the hydrology and water quality downstream of the project site.

iii. Copies of pollution and erosion control inspection reports, including descriptions of any failures experienced with erosion control measures, efforts made to correct them and a description of any accidental spills of hazardous materials.

iv. Documentation of the following conditions: Finished grade slopes and elevations; log and rock structure elevations, orientation, and anchoring, if any; planting composition and density; a plan to inspect and, if necessary, replace failed planting and structures for five years; photographic documentation of environmental conditions at the project site and compensatory mitigation site(s) (if any) before, during and after project completion.

(1) Photographs will include general project location views and close-ups showing details of the project area and project, including pre and post construction.

(2) Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject.

(3) Relevant habitat conditions include characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other visually-discernable environmental conditions at the project area, and upstream and downstream of the project.

v. Additional project-specific data, as appropriate for individual projects.

(1) Dates work cessation was required due to high flows.

(2) Compliance with NOAA Fisheries' fish screen criteria (if work resulted in dewatering).

(3) Finished grade slopes and elevations;log and rock structure elevations, orientation, and anchoring (if any); and planting composition and density.

3. MAGNUSON - STEVENS ACT

3.1 Background

The objective of the essential fish habitat (EFH) consultation is to determine whether the proposed action may adversely affect designated EFH for relevant species, and to recommend conservation measures to avoid, minimize, or otherwise offset potential adverse effects to EFH resulting from the proposed action.

3.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), requires the inclusion of EFH descriptions in federal fishery management plans. In addition, the MSA requires federal agencies to consult with NOAA Fisheries on activities that may adversely affect EFH.

EFH means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA §3). For the purpose of interpreting the definition of essential fish habitat: 'Waters' include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; 'substrate' includes sediment, hard bottom, structures underlying the waters, and associated biological communities; 'necessary' means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle (50CFR600.110).

Section 305(b) of the MSA (16 U.S.C. 1855(b)) requires that:

- Federal agencies must consult with NOAA Fisheries on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NOAA Fisheries shall provide conservation recommendations for any Federal or state activity that may adversely affect EFH;
- Federal agencies shall within 30 days after receiving conservation recommendations from NOAA Fisheries provide a detailed response in writing to NOAA Fisheries regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NOAA Fisheries, the federal agency shall explain its reasons for not following the recommendations.

The MSA requires consultation for all actions that may adversely affect EFH, and does not distinguish between actions within EFH and actions outside EFH. Any reasonable attempt to encourage the conservation of EFH must take into account actions that occur outside EFH, such as upstream and upslope activities, that may have an adverse effect on EFH. Therefore, EFH consultation with NOAA Fisheries is required by federal agencies undertaking, permitting or funding activities that may adversely affect EFH, regardless of its location.

3.3 Identification of EFH

The Pacific Fisheries Management Council (PFMC) has designated EFH for three species of Pacific salmon: Chinook (*Oncorhynchus tshawytscha*); coho (*O. kisutch*); and Puget Sound pink salmon (*O. gorbuscha*) (PFMC 1999). Freshwater EFH for Pacific salmon includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers (as identified by the PFMC), and longstanding, naturally-impassable barriers (*i.e.*, natural waterfalls in existence for several hundred years). Detailed descriptions and identifications of EFH for salmon are found in Appendix A to Amendment 14 to the *Pacific Coast Salmon Plan* (PFMC 1999). Assessment of potential adverse effects to these species' EFH from the proposed action is based on this information.

3.4 Proposed Actions

The proposed actions are detailed in section 1.2. These areas have been designated as EFH for various life stages of coho and chinook salmon.

3.5 Effects of Proposed Action

As described in detail in section 1.5, the proposed activities may result in detrimental short-term adverse effects to a variety of habitat parameters. These impacts include: (1) Disturbance of the beds and banks of the river; and (2) the potential for pollutants to enter the water.

3.6 Conclusion

After reviewing the current status of the listed species, the environmental baseline for the action areas, the effects of the proposed actions, and cumulative effects, NOAA Fisheries has determined that the actions, as proposed, will adversely affect the EFH for chinook and coho salmon.

3.7 EFH Conservation Recommendations

Pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act, NOAA Fisheries is required to provide EFH conservation recommendations for any federal or state agency action that would adversely affect EFH. The conservation measures proposed for the project by the COE and all of the reasonable and prudent measures and the terms and conditions contained in sections 2.2 and

2.3 of this Opinion are applicable to salmon EFH. Therefore, NOAA Fisheries incorporates each of those measures here as EFH conservation recommendations.

3.8 Statutory Response Requirement

Please note that the Magnuson-Stevens Act (section 305(b)) and 50 CFR 600.920(j) requires the federal agency to provide a written response to NOAA Fisheries after receiving EFH conservation recommendations within 90 days of its receipt of this letter. This response must include a description of measures proposed by the agency to avoid, minimize, mitigate or offset the adverse impacts of the activity on EFH. If the response is inconsistent with a conservation recommendation from NOAA Fisheries, the agency must explain its reasons for not following the recommendation.

3.9 Supplemental Consultation

The COE must reinitiate EFH consultation with NOAA Fisheries if either the action is substantially revised or new information becomes available that affects the basis for NOAA Fisheries' EFH conservation recommendations (50 CFR 600.920).

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